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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/541,552	04/03/2000	Maury Zivitz	53009-223482	5090

33072 7590 03/13/2003

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EXAMINER

SODERQUIST, ARLEN

ART UNIT	PAPER NUMBER
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1743

DATE MAILED: 03/13/2003

14

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/541,552

Applicant(s)

Zivitz

Examiner

Arlen Soderquist

Art Unit

1743



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Jan 10, 2003
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on Feb 12, 2002 is/are a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 6) ☐ Other:

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on January 10, 2003 has been entered.

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. Claims 1-23 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Eifler, Yasuda, Tien, Raymond, Wohltjen, Stanbro or Pribat (all newly cited and applied). Each of the above references has a primary measuring circuit in a support with two electrodes connected to an analyte detection zone for measuring an analyte and a reference measuring circuit also on the support which is electrically distinct from the analyte detection zone and physically arranged to experience the same environment as the

primary measuring circuit. The reference measuring circuit is used to cancel affects such as temperature that are known to affect the measuring circuit. Because of the proximity of the reference circuit to the measuring circuit and the cancellation of electrical affects from the measuring circuit signal, the structure taught by each of Eifler, Yasuda, Tien, Raymond, Wohltjen, Stanbro and Pribat inherently cancels other affects which would cause an electrical signal in the measuring circuit other than that from the analyte being measured. Thus Eifler, Yasuda, Tien, Raymond, Wohltjen, Stanbro and Pribat each anticipate the claims. Eifler, Yasuda, Tien, Raymond, Wohltjen, Stanbro or Pribat do not teach that the sensors are biosensors, however, the claims do not have limitations that exclude any of the sensors based on a particular biological analyte and one of skill in the art would have recognized that the respective sensors are capable of use to sense their respective analytes in biological samples such as breath (oxygen, anesthetic gases, carbon monoxide, or carbon dioxide), blood or urine (salts and other ionic solutes) and would have used them to measure their intended analytes because of their known sensitivities.

5. Claims 1-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Parks in view of Van Rooijen (newly cited and applied) and Eifler, Yasuda, Tien, Raymond, Wohltjen, Stanbro or Pribat as set forth above. In the patent Parks teaches a amperometric biosensor electrode excitation circuit that is substantially similar to the claimed device. The device has two electrodes (12,14) forming a measurement loop that includes a test cell (10) on a substrate (16). Figure 3 shows a circuit for applying potential to the electrodes for measurement of an analyte. Parks does not teach a noise cancellation loop to cancel the effects of electromagnetically propagated energy.

In the paper Van Rooijen discusses noise and drift phenomena in amperometric and coulometric detectors. Noise and drift phenomena in electrochemical detectors with solid electrodes for high-performance liquid chromatography and flow-injection analysis are discussed. A relation between the capacity of the working electrode and the noise of the detector is demonstrated in 3 different ways, using direct correlation of noise with capacitance, time correlation functions, and electrical simulation of the cell properties. Conclusions are drawn

with respect to the prospects of various measures to improve the detection limit. On page 2232 several different causes of drift and noise are listed including temperature fluctuations and the electronic equipment.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the compensating configurations of Eifler, Yasuda, Tien, Raymond, Wohltjen, Stanbro or Pribat into the Parks device and method because of the ability to remove interference from temperature fluctuations which Van Rooijen teaches as clearly affecting the electrochemical signal.

6. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The additionally cited references are similar to those that have been applied to the claims or discuss noise as it pertains to electrochemical detectors.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Arlen Soderquist whose telephone number is (703) 308-3989. The examiner's schedule is variable between the hours of about 5:30 AM to about 5:00 PM on Monday through Thursday and alternate Fridays.

For communication by fax to the organization where this application or proceeding is assigned, (703) 305-7719 may be used for official, unofficial or draft papers. When using this number a call to alert the examiner would be appreciated. Numbers for faxing official papers are 703-872-9310 (before finals), 703-872-9311 (after-final), 703-305-7718, 703-305-5408 and 703-305-5433. The above fax numbers will generally allow the papers to be forwarded to the examiner in a timely manner.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.


March 10, 2003

ARLEN SODERQUIST
PRIMARY EXAMINER